

REMARKS

This application has been reviewed in light of the Office Action mailed on May 6, 2004. Claims 1-12 are pending in the application with Claim 1 being in independent form.

In the Office Action, Claims 1-12 were rejected under 35 U.S.C. §103(a) as being unpatentable by U.S. Patent No. 5,469,275 issued to Edgar on November 21, 1995 (“Edgar”) in view of U.S. Patent No. 6,668,097 issued to Hu et al. on December 23, 2003 (“Hu et al.”). The rejection is respectfully traversed.

Independent Claim 1 is believed to patentably distinguish Applicants’ invention over the teachings of Edgar and Hu et al, taken alone or in any proper combination, and hence, Applicants’ Claim 1 is believed to overcome the rejection. In particular, Claim 1 recites “A method of reproducing a gray scale image in colors, comprising the step of assigning a color value (x, y) and a brightness (Y) to each shade of gray to provide a three-dimensional space having increasing shades of gray, wherein the assignment between shades of gray and brightness is monotonic, wherein the assigned color values are selected from the range (U) of a predetermined reference color (x_R , y_R), and wherein the assignment of color values enables the human eye to differentiate between successive shades of gray.“ (Emphasis added)

As stated in the Office Action, Edgar does not disclose or suggest the limitations underlined above and recited by independent Claim 1. In particular, Edgar does not disclose or suggest assigning a color value (x, y) and a brightness (Y) to each shade of gray to provide a three-dimensional space having increasing shades of gray, as recited by Applicants’ Claim 1 and disclosed at page 9, lines 2-4 in conjunction with Figure 2.

Edgar discloses a two-dimensional gray scale spline as shown by Figures 5 to 6F having different shades of gray along the spline. As discussed above, Edgar teaches that a first point along the spline can be adjusted for adjusting the location of at least one other point. The first point and the at least one other point are then used to generate a new two-dimensional gray scale spline through the first point and the at least one other point as shown by Figures 6A-6F.

It is respectfully submitted that Hu et al. does not cure the deficiencies of Edgar. Hu et al. is directed to the decompression of electronically transmitted and stored images and specifically to a method of eliminating ringing artifacts occurring with some image compression methods under medium and high compression ratios. There is no disclosure or suggestion by Hu et al. of assigning a color value and a brightness to each shade of gray to provide a three-dimensional space having increasing shades of gray, as recited by Applicants' Claim 1.

The Examiner makes reference to column 7, lines 36-50 in Hu et al. as disclosing the feature of assigning a color value and a brightness to each shade of gray to provide a three-dimensional space having increasing shades of gray which is recited by Applicants' Claim 1. Applicants respectfully disagree with the Examiner's understanding of the teaching of column 7, lines 36-50. At column 7, lines 36-50, Hu et al. teaches gray level dilation which is known in the art for flattening spikes and filling valleys on region edges in gray level image. Gray level dilation is defined as follows:

$$R(x,y) = \max \{I(x-i, y-j) + T(i,j)\}, \text{ where } 0 \leq i \leq m-1 \text{ and } 0 \leq j \leq n-1 \text{ and where } I(x,y) \text{ is an image of gray levels and } R(x,y) \text{ is the resulting image after } I(x,y) \text{ has been dilated with } mxn \text{ template } T(i,j).$$

Gray level dilation according to Hu et al. is performed by moving a three-dimensional structuring element 126 about a center point 130. The center point 130 travels over each point on and under the three-dimensional surface. If the center point 130 is coincident with a point on or under the three-dimensional surface, all the points within the periphery 128 are filled in. There is no disclosure or suggestion by Hu et al. of assigning a color value and a brightness to each shade of gray to provide a three-dimensional space having increasing shades of gray, as recited by Applicants' Claim 1. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) and allowance of Claim 1 are respectfully requested.

Claims 2-12 depend from Claim 1, and therefore include the limitations of Claim 1. Accordingly, for the same reasons given for Claim 1, Claims 2-12 are believed to contain patentable subject matter. Hence, withdrawal of the rejection under 35 U.S.C. §103(a) with respect to Claims 2-12 and allowance of Claims 2-12 are respectfully requested.

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1-12, are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call John Vodopia, Esq., Intellectual Property Counsel, Philips Electronics North America, at 914-333-9627.

Respectfully submitted,



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